

Summer 2010 (June-August)

The 2010 summer months were characterized by above normal temperatures and near normal rainfall. Roanoke, Danville, Blacksburg, and Bluefield all had their warmest summers on record. When averaging all available temperature data from across the states, both Virginia and North Carolina experienced their warmest ever summer, with West Virginia seeing its second warmest. Both the average high and low temperatures were significantly above normal, with this summer featuring many individual day record temperatures. The summer featured prolonged periods of dry weather, with most of the rain coming in short periods of time. It was a busy couple of months for severe weather as well, with over 500 reports of wind damage and hail across the Blacksburg County Warning Area.

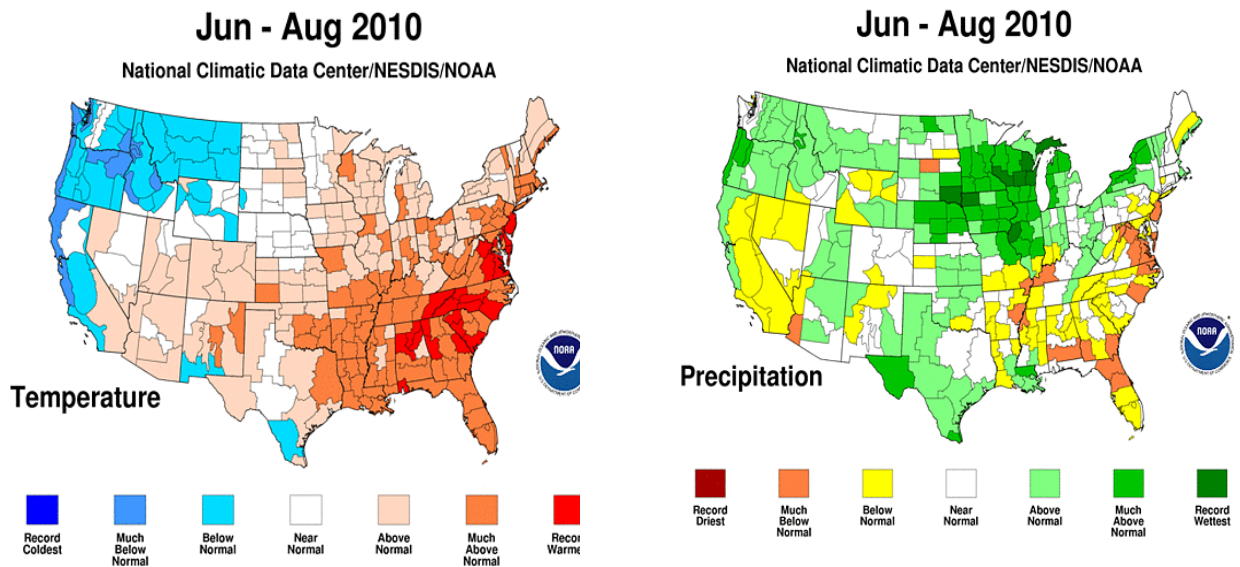


Figure 1: Summer Temperature Anomalies

Figure 2: Summer Precipitation Anomalies

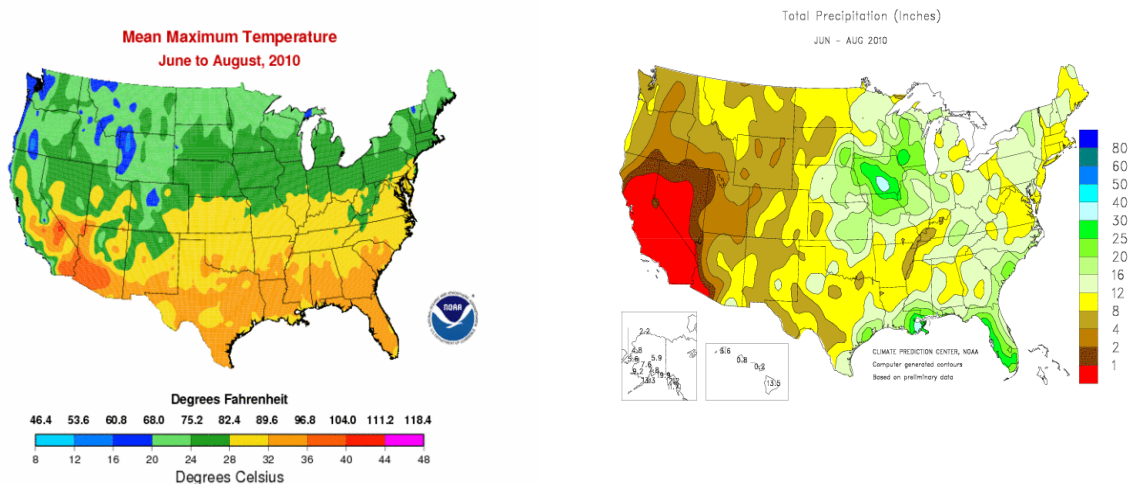


Figure 3: Summer Mean Maximum Temperature (left). Total summer precipitation (right).

Table 1: June-August temperature and rainfall Summary

Climate Site	Average Temperature	Temperature Anomaly(Rank)	Average Max Temp	Max Temp Anomaly	Total Precipitation	Precipitation Anomaly
Bluefield	74.5	+4.3(1 st)	83.6	+4.3	13.79	+2.73
Blacksburg	72.9	+3.7(1 st)	84.2	+3.4	10.90	-0.88
Roanoke	78.2	+3.9(1 st)	88.4	+2.8	12.01	+0.59
Lynchburg	77.1	+3.8(7 th)	88.5	+3.8	12.55	+0.96
Danville	80.0	+3.2(1 st)	91.6	+3.4	9.81	-1.67

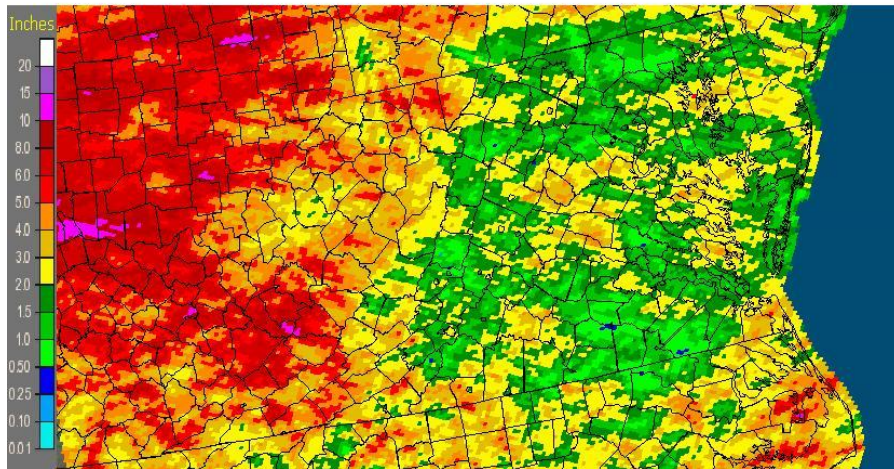
Summer Rainfall Totals

Site	Summer PCPN
Saltville	18.38
Stuart	18.15
Richlands	17.26
Galax	16.12
Meadows of Dan	15.66
Galax	15.13
Burkes Garden	14.48
Yadkinville	14.43
Brookneal	14.19
North Wilkesboro	13.60
Danbury	13.58
Woolwine	13.29
Lynchburg	13.18
Eden	13.11
Rocky Mount	13.06
Reidsville	12.79
Yanceyville	12.76
Roanoke	12.61
Holcomb Rock	12.59
McRoss	12.51
Wytheville	12.44
Bland	12.41
Bedford	12.33
Kerrs Creek	12.28
Renick	11.98
Huddleston	11.74
Boone	11.50
Buena Vista	11.08
Danville	10.96
Blacksburg	10.94

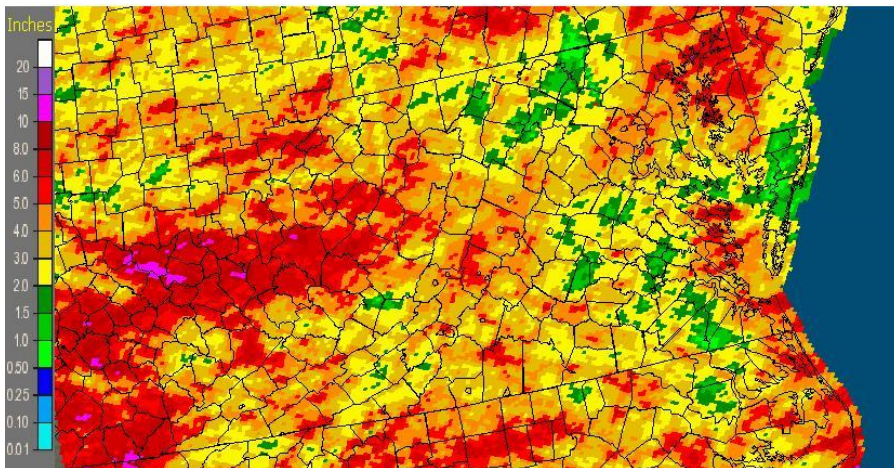
White Sulphur Springs	10.80
Chatham	10.72
Princeton	10.61
Appomattox	10.59
Mount Airy	10.41
Earlehurst	10.28
Copper Hill	10.17
Elkin	9.97
Lewisburg	9.92
Lafayette	9.80
Union	9.71
Jefferson	9.64
Concord	9.48
Staffordsville	9.48
South Boston	9.41
Troutdale	9.37
Lexington	9.32
Martinsville	9.14
Covington	9.13
Keysville	8.88
Altavista	8.24
Glasgow	8.17
Brownsburg	7.85
Gathright Dam	7.81
Buchanan	7.47
Radford	7.43
Pulaski	7.24
Bluestone Lake	6.94
Pedlar Dam	6.89
Alderson	6.28
Buckingham	6.19
Hot Springs	6.11

Monthly Rainfall Maps

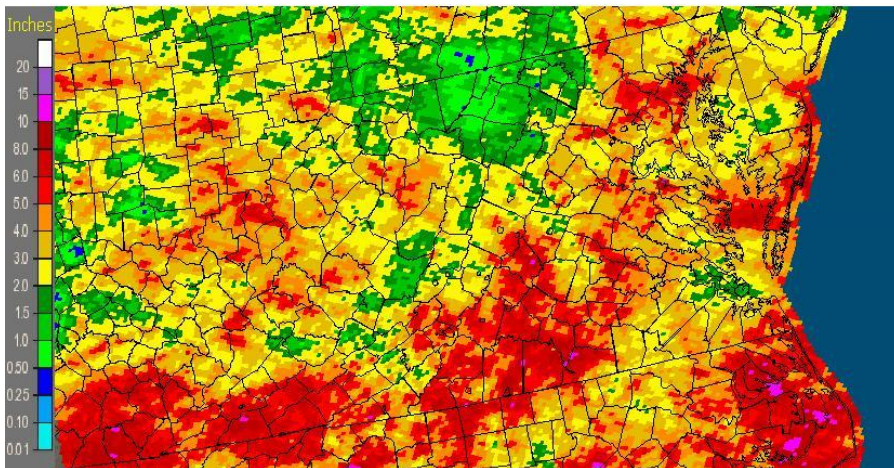
Virginia: June, 2010 Monthly Observed Precipitation
Valid at 7/1/2010 1200 UTC- Created 7/3/10 21:39 UTC



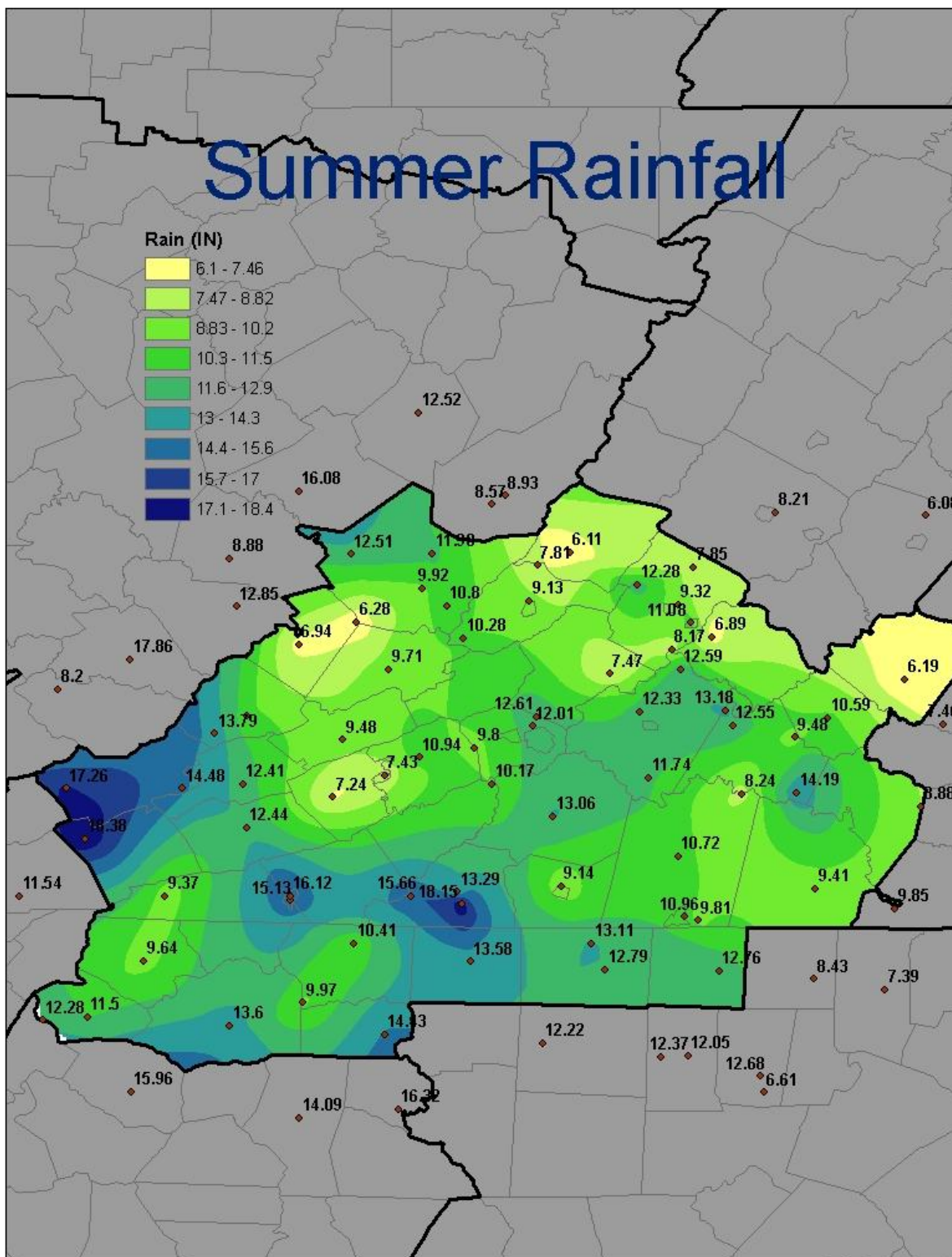
Virginia: July, 2010 Monthly Observed Precipitation
Valid at 8/1/2010 1200 UTC- Created 8/3/10 21:39 UTC



Virginia: August, 2010 Monthly Observed Precipitation
Valid at 9/1/2010 1200 UTC- Created 9/3/10 21:39 UTC



Summer Rainfall



June 2010

The predominant weather pattern during June was for an upper level ridge of high pressure to settle over the southeastern part of the country. This brought above normal temperatures to the area with almost every day of the month averaging above normal. This type of pattern also prevented many strong cold fronts from passing through the area. Most fronts remained to our north and weakened as they approached the region. This allowed for warm and humid conditions to persist through the month. Most of our rain came from scattered showers and thunderstorms and weakening thunderstorm complexes, which were most common across far western Virginia and southeast West Virginia. Thus many areas east of the Blue Ridge became dry and began to enter into minor drought conditions. All parts of the County Warning Area received some severe weather reports, as it was a busy month for severe thunderstorms. Over 80 severe thunderstorm or tornado warnings were issued, with over 200 instances of wind damage or hail reported.

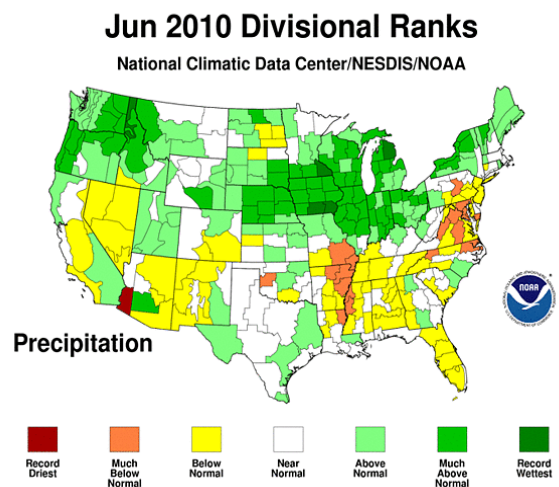
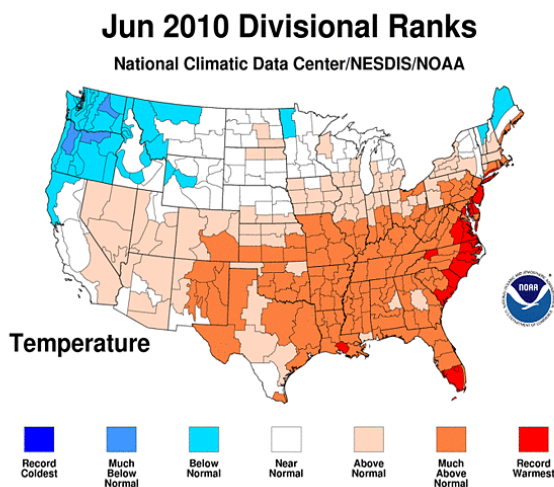


Table 2: June temperature and rainfall summary

Climate Site	Average Temperature (Anomaly)	AVG Max Temp (Anomaly)	AVG Min Temp (Anomaly)	Total Precipitation (Anomaly)
Bluefield	73.3 (+5.3)	82.1 (+5.3)	64.6 (+5.4)	5.00 (+1.15)
Blacksburg	71.9 (+5.0)	83.5 (+4.9)	60.4 (+5.2)	1.19 (-2.74)
Roanoke	78.1 (+6.2)	88.7 (+5.4)	67.6 (+7.8)	1.28 (-2.40)
Lynchburg	76.3 (+5.3)	87.8 (+5.3)	64.7 (+5.2)	3.13 (-0.66)
Danville	79.1 (+4.7)	90.7 (+4.5)	67.6 (+5.0)	2.20 (-1.30)

July 2010

July started out with a large area of high pressure overhead bringing dry conditions and increasing heat to the area. By the 8th the humidity began to increase and persisted for much of the remainder of the month. Once again upper level high pressure overhead prevented many strong fronts from pushing through with cooler and drier air. Thus it remained well above normal temperature and humidity wise across the region. Most of our rain came from scattered showers and thunderstorms as weak cold fronts approached our humid air mass. Therefore rainfall amounts were very variable across our region, but most locations were below normal by month's end. This lack of significant rainfall and extreme heat pushed parts of the piedmont into a moderate drought by the end of the month. It was another fairly active month with regards to severe weather, with 70 warnings issued and over 120 reports of storm damage. The highest concentration of severe thunderstorms was over the piedmont, with only a few west of the Blue Ridge.

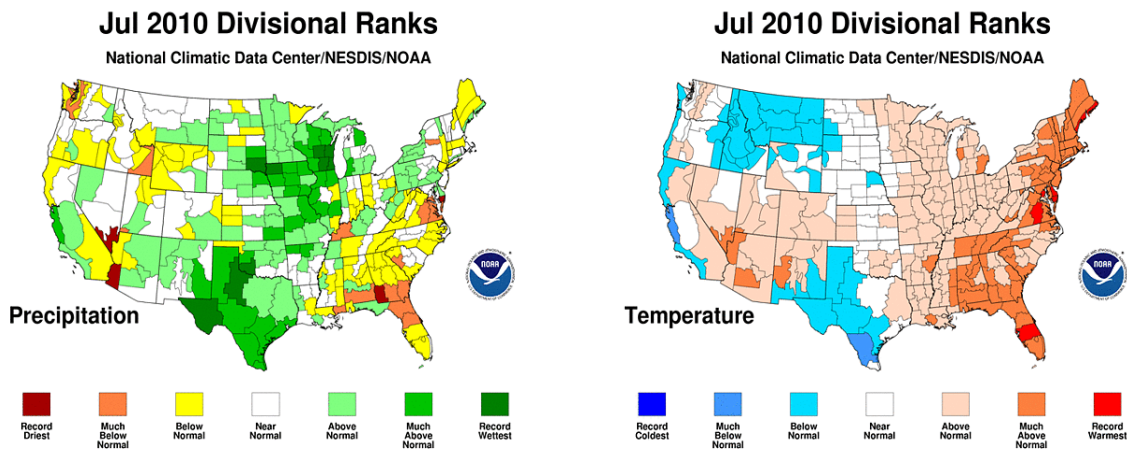


Table 3: July temperature and rainfall summary

Climate Site	Average Temperature (Anomaly)	AVG Max Temp (Anomaly)	AVG Min Temp (Anomaly)	Total Precipitation (Anomaly)
Bluefield	75.2 (+3.6)	84.2 (+3.9)	66.3 (+3.4)	4.57 (+0.56)
Blacksburg	73.7 (+2.6)	85.6 (+3.1)	61.7 (+2.0)	4.62 (+0.45)
Roanoke	79.3 (+3.1)	90.0 (+2.5)	68.6 (+3.7)	5.73 (+1.73)
Lynchburg	78.6 (+3.5)	91.1 (+4.7)	66.1 (+2.4)	2.89 (-1.50)
Danville	80.7 (+1.9)	93.0 (+3.0)	68.4 (+0.8)	2.09 (-2.35)

August 2010

August was a wet and hot month across our region as an upper level ridge of high pressure remained predominately over the southeastern United States. Humidity levels remained high for much of the month, as only a few cold fronts made it this far south. Most of our rain once again came from scattered showers and thunderstorms. However a stalled weak front became the focus for more widespread heavier showers and thunderstorms around mid-month. A large area of high pressure then brought dry weather to end August. However the rain that fell early and mid month was enough to improve drought conditions across much of southwest Virginia. August was another busy severe weather month with 70 warnings issued, and over 180 reports of storm damage. Severe thunderstorms were more evenly distributed in August than in July, with all portions of the CWA experiencing strong thunderstorms.

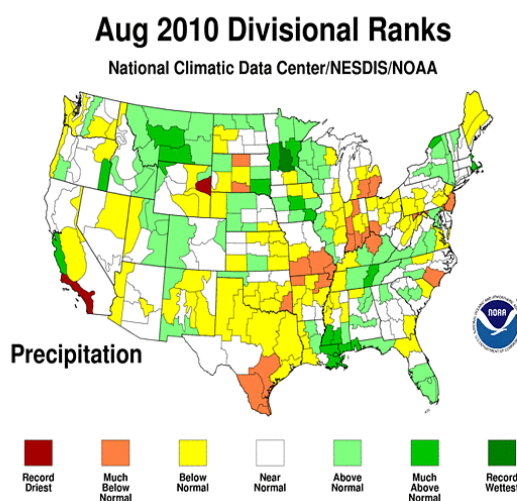
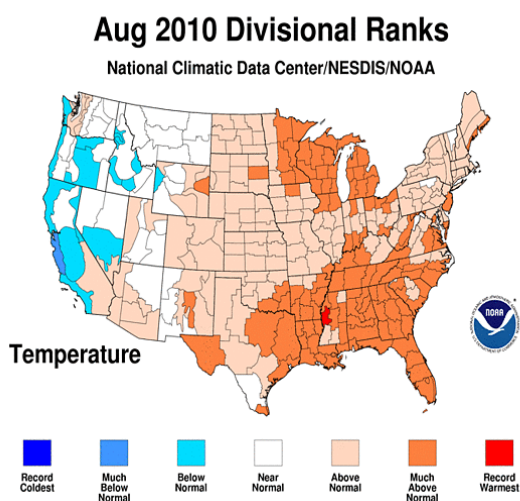


Table 4: August temperature and rainfall summary

Climate Site	Average Temperature (Anomaly)	AVG Max Temp (Anomaly)	AVG Min Temp (Anomaly)	Total Precipitation (Anomaly)
Bluefield	74.8 (+4.0)	83.5 (+3.8)	66.0 (+4.1)	4.22 (+1.02)
Blacksburg	73.2 (+3.6)	83.5 (+2.2)	62.8 (+5.0)	5.09 (+1.41)
Roanoke	77.2 (+2.5)	86.4 (+0.4)	67.9 (+4.5)	5.00 (+1.26)
Lynchburg	76.6 (+2.8)	86.5 (+1.4)	66.6 (+4.2)	6.53 (+3.12)
Danville	80.2 (+3.1)	91.0 (+2.7)	69.3 (+3.4)	5.52 (+1.98)

Summer Climate Sites/Records

Blacksburg, VA

Record daily rainfall:

July 12th: 2.08 inches. Previous record 0.58 set in 1976.

Record daily cold high temperatures:

August 2nd: 71 degrees. Previous record 75 set in 1985.

Record daily warm low temperatures:

June 12th: 65 degrees. Previous record 63 set in 1965.

June 13th: 66 degrees. Previous record 65 set in 2005.

June 14th: 65 degrees. Previous record 65 set in 2002.

July 8th: 67 degrees. Previous record 67 set in 1994.

July 17th: 66 degrees. Previous record 66 set in 1994.

July 21st: 68 degrees. Previous record 68 set in 1991.

July 27th: 68 degrees. Previous record 68 set in 1997.

July 29th: 69 degrees. Previous record 68 set in 1981.

August 4th: 69 degrees. Previous record 68 set in 1976.

August 11th: 67 degrees. Previous record 66 set in 1991.

August 15th: 68 degrees. Previous record 68 set in 1957.

August 16th: 68 degrees. Previous record 68 set in 1995.

August 19th: 67 degrees. Previous record 66 set in 1955.

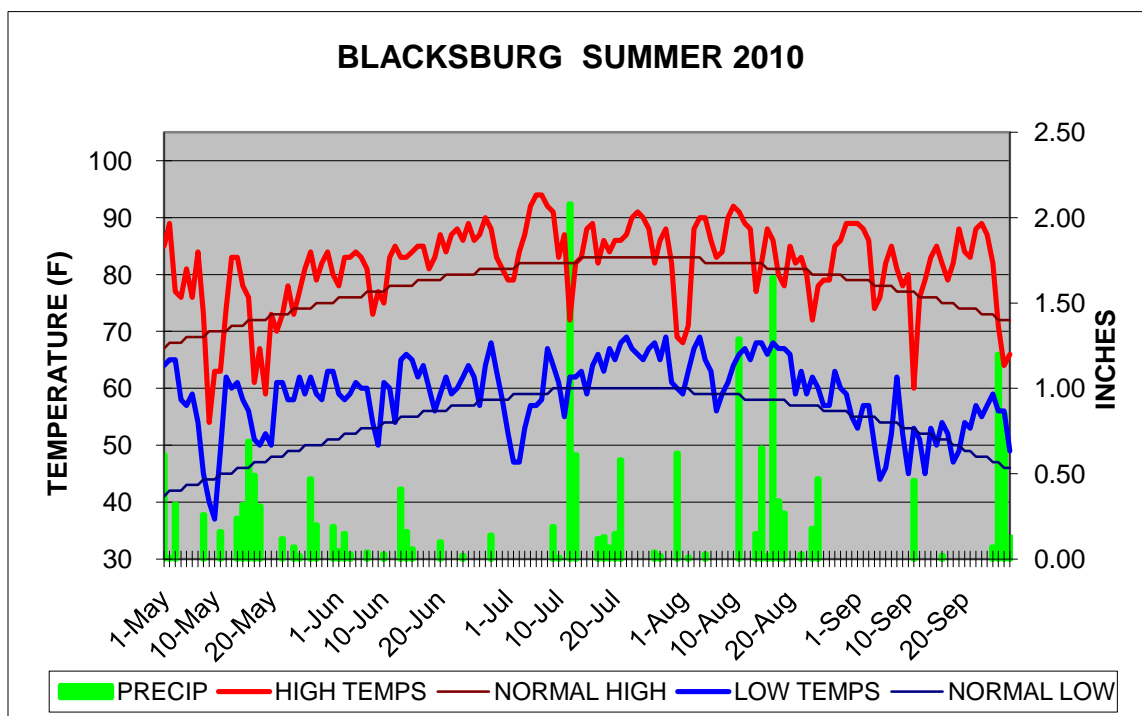
Record Daily High Temperatures:

July 6th: 94 degrees. Previous record 92 set in 1999.

July 7th: 94 degrees. Previous record 92 set in 1988.

August 10: 92 degrees. Previous record 92 set in 2007.

August 11th: 91 degrees. Previous record 91 set in 1980.



Roanoke, VA

Record Daily Warm Low Temperatures:

June 12th: 71 degrees. Previous record 69 set in 1998.

June 16th: 73 degrees. Previous record 72 set in 2004.

June 24th: 72 degrees. Previous record 72 set in 1956.

June 28th: 75 degrees. Previous record 73 set in 1986.

July 24th: 75 degrees. Previous record 75 set in 1934.

July 25th: 75 degrees. Previous record 75 set in 1965.

July 26th: 74 degrees. Previous record 72 set in 1976.

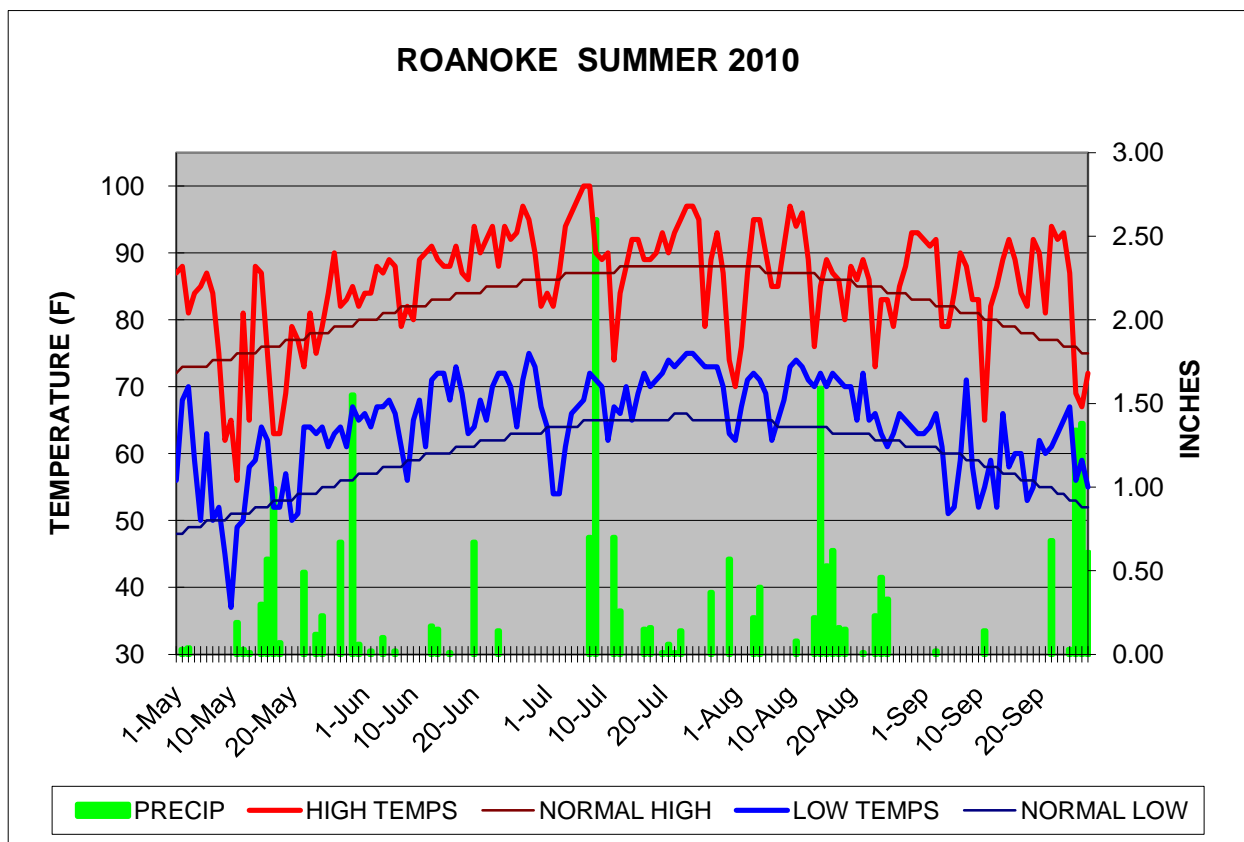
August 11th: 73 degrees. Previous record 72 set in 2007.

Record Daily High Temperatures:

August 12th: 96 degrees. Previous record 96 set in 1977.

Record Daily Cool High Temperature:

August 1st: 70 degrees. Previous record 76 set in 1985.



Lynchburg, VA

Record daily rainfall:

August 5th: 1.83 inches. Previous record 1.40 set in 1942.

August 24th: 2.55 inches. Previous record 2.21 set in 1967.

Record Daily Cool high temperatures:

August 24th: 69 degrees. Previous record 70 set in 1967.

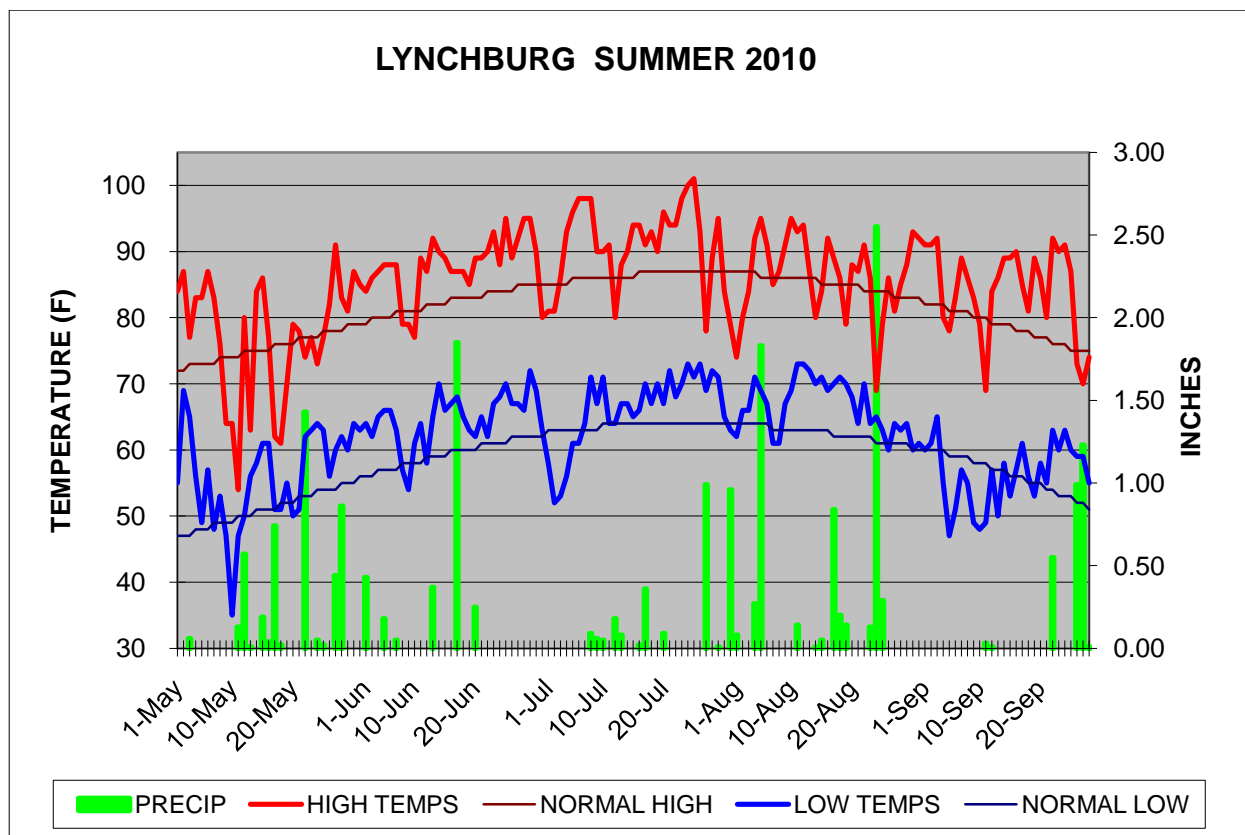
Record Daily High temperatures:

July 6th: 98 degrees. Previous record 98 set in 1999.

July 7th: 98 degrees. Previous record 98 set in 1988.

July 23rd: 98 degrees. Previous record 96 set in 1991.

July 24th: 100 degrees. Previous record 99 set in 1933.



Danville, VA

Record Daily Cool high temperatures:

August 1st: 78 degrees. Previous record 80 set in 1998.

Record Daily Low temperatures:

July 3rd: 51 degrees. Previous record 52 set in 1988.

Record Daily High temperatures:

July 7th: 104 degrees. Previous record 102 set in 1977.

July 8th: 102 degrees. Previous record 102 set in 1977.

July 24th: 101 degrees. Previous record 99 set in 1987.

July 25th: 102 degrees. Previous record 99 set in 1999.

August 12th: 100 degrees. Previous record 100 set in 1949.

Record Daily Warm low temperatures:

June 3rd: 68 degrees. Previous record 68 set in 1965.

June 13th: 73 degrees. Previous record 72 set in 2005.

July 23rd: 75 degrees. Previous record 75 set in 1991.

July 24th: 76 degrees. Previous record 76 set in 1999.

July 25th: 76 degrees. Previous record 74 set in 2001.

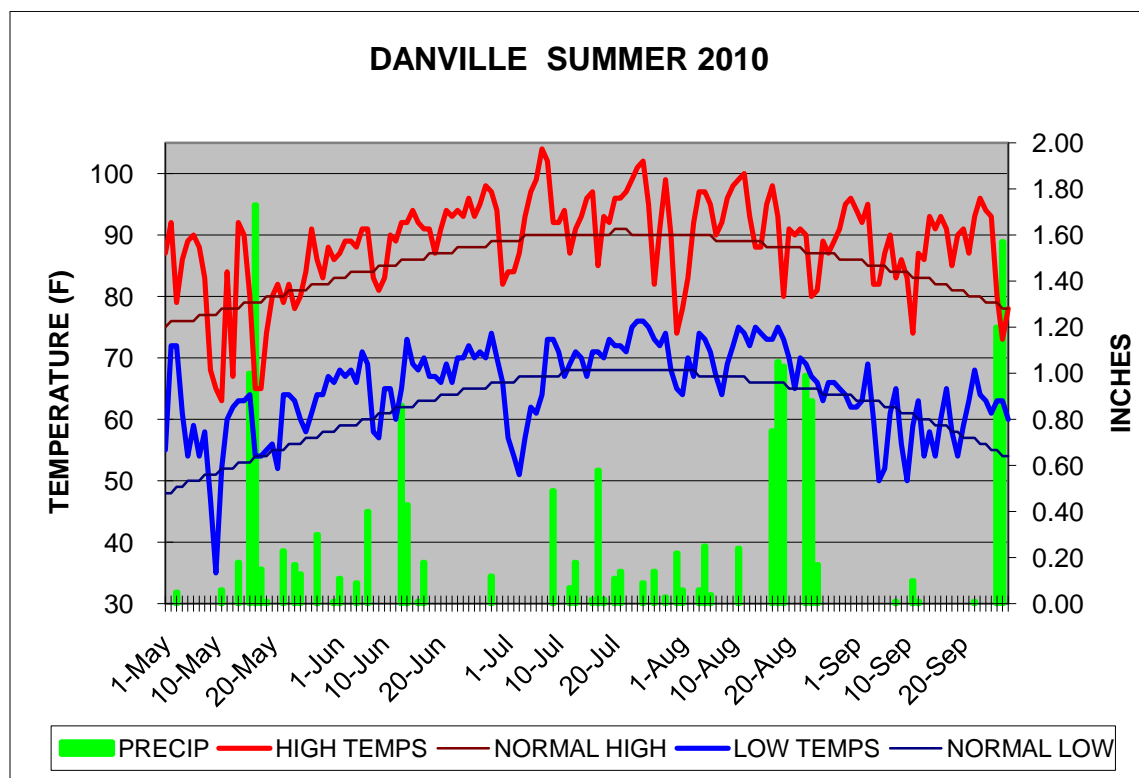
July 26th: 75 degrees. Previous record 73 set in 1969.

July 29th: 74 degrees. Previous record 74 set in 1997.

August 4th: 74 degrees. Previous record 74 set in 1976.

August 11th: 75 degrees. Previous record 75 set in 2007.

August 12th: 74 degrees. Previous record 73 set in 1980.



Bluefield, WV

Record daily rainfall:

July 12th: 1.56 inches. Previous record 0.87 set in 1980.

Record daily warm low temperatures:

June 12th: 68 degrees. Previous record 68 set in 2005.

June 13th: 69 degrees. Previous record 69 set in 2005.

June 14th: 68 degrees. Previous record 68 set in 1984.

June 15th: 68 degrees. Previous record 68 set in 2004.

June 16th: 68 degrees. Previous record 68 set in 2004.

June 24th: 70 degrees. Previous record 68 set in 1996.

July 21st: 71 degrees. Previous record 71 set in 1983.

July 22nd: 72 degrees. Previous record 70 set in 1983.

July 24th: 71 degrees. Previous record 69 set in 1986.

July 25th: 71 degrees. Previous record 69 set in 1986.

July 26th: 70 degrees. Previous record 70 set in 1975.

July 28th: 69 degrees. Previous record 69 set in 1962.

July 29th: 70 degrees. Previous record 68 set in 2006.

August 4th: 69 degrees. Previous record 69 set in 1965.

August 10th: 72 degrees. Previous record 72 set in 2007.

August 11th: 71 degrees. Previous record 68 set in 2005.

August 12th: 69 degrees. Previous record 69 set in 2007.

August 15th: 72 degrees. Previous record 68 set in 2005.

Record Daily High Temperatures:

June 3rd: 83 degrees. Previous record 83 set in 2009.

June 11th: 84 degrees. Previous record 84 set in 2000.

June 27th: 88 degrees. Previous record 88 set in 2007.

July 6th: 92 degrees. Previous record 89 set in 1999.

July 7th: 92 degrees. Previous record 91 set in 1988.

August 13th: 91 degrees. Previous record 88 set in 2005.

